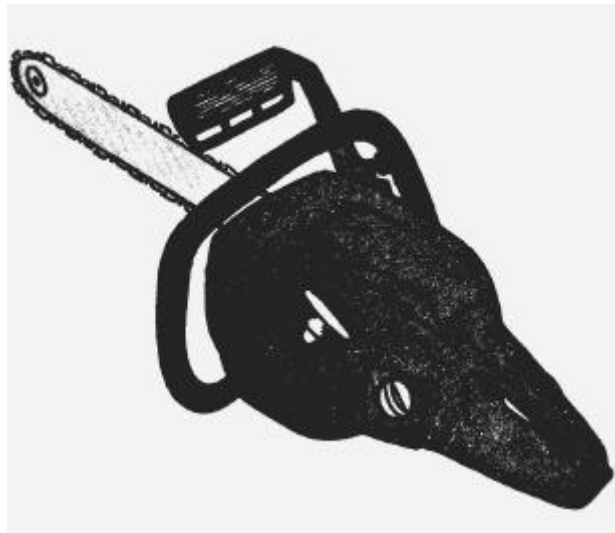




**CONSTRUCTION SAFETY
EDUCATION PROGRAM
#10**

WORKING SAFELY WITH CHAIN SAWS



This education program provides a guideline for proper use of chain saws. It is intended to give contractors and workers practical information relating to safe use of chain saws and personal equipment.

This education program contains general information. For specific regulatory requirements, please consult the appropriate regulation(s) concerning the use of power saws or the Workplace Safety and Health Act and the Canadian Safety Association Standards (CSA).



CHAIN SAW SAFETY

- Chain saws are a useful tool in the construction trade. They have improved in design and have become more powerful, but if not used properly can cause very serious injuries not only to the operator but to his /her partners.
- In order to prevent such occurrences, it is imperative that each worker is instructed in the proper and safe procedures of operating chain saws and the potential dangers. He/she must be made aware of the hazards of all the job functions the worker is to perform.



SAW SAFETY DEVICES

Chain saws have safety devices developed over the years to help avoid accidents. It is important that your saw has all of these safety devices and that they are always working properly.

1. The Chain Brake

The chain brake is designed to stop the moving chain instantly should a “kickback” occur. (Kickback is explained fully in “Working with the Saw”).



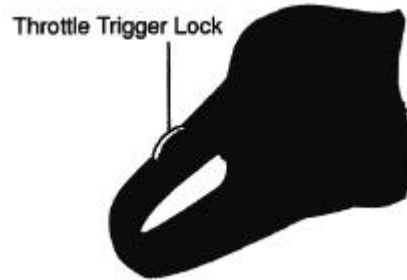
The brake is put on by your hand or wrist hitting the front hand guard.

The chain brake must always be set when you are walking with the saw motor running.



2. The Throttle Trigger Lock

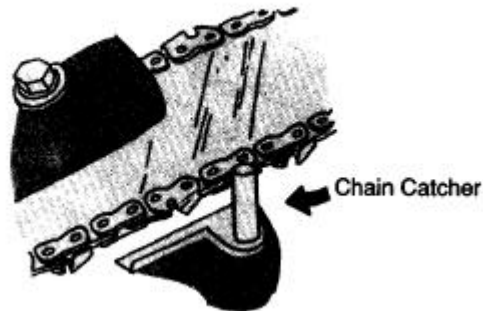
The rear handle is equipped with a throttle trigger lock. This keeps the saw from accidentally speeding up if the throttle trigger is touched.



These two safety features on the saw help prevent injury in case of a broken chain.

3. The Chain Catcher

The chain catcher is fitted under the chain as far forward as possible. Should a chain break or come off, it will tangle around the chain catcher and keep the chain from hitting you.



4. The Rear Hand Guard

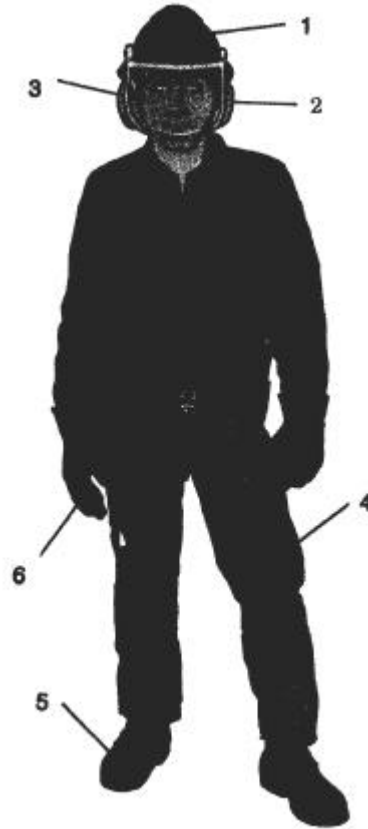
The rear hand guard protects your right hand should the chain brake and fly back at you.



PERSONAL PROTECTIVE EQUIPMENT

Proper safety clothing reduces the risk of injury. Over the years, studies have proven that many injuries could have been avoided if proper safety clothing had been worn. Even the most careful worker needs extra protection of proper safety clothing.

1. *Hardhat* – A CSA approved hardhat, either flame orange or flame red, should be worn on all logging sites.
2. *Hearing Protectors* – If you are running a chain saw regularly you should wear hearing protection, otherwise the noise will damage your hearing.
3. *Eye Protection* – Near chain saws there are always a lot of chips. You should wear eye protection. Ordinary eyeglasses are not suitable protection against flying chips.
4. *Leg Protection* – When operating a chain saw you must wear leg protection. We recommend a full safety pant with long ballistic nylon pads, or pull on chaps with ballistic nylon pads.
5. *Safety Footwear* – You must wear a CSA approved hard-toe safety boot with non-slip soles. A high boot with hard toes and a ballistic nylon pad on the front of the boot is recommended.
6. *Gloves or Mitts* – You should always wear gloves or mitts when operating a chain saw. These should be lined with ballistic nylon.
7. *First Aid* – All workers should carry a 4 inch compress for the control of heavy bleeding. There should be a first aid kit at the worksite, appropriately stocked for the logging industry.



MAINTAINING THE SAW

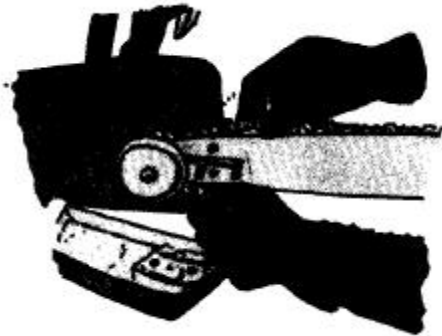
When setting up the saw, always wear the appropriate hand and eye protection.



Pull the hand guard toward the front handle to make sure the brake is not on.

Remove chain brake and outer guide plate. (The guide plate is not found on all saws.)

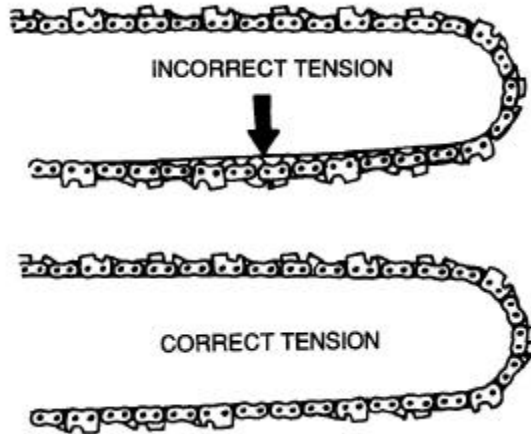
Clean oil and debris from around the clutch and bar assembly.



Put the bar on the bar studs.
Put the chain on, starting at the sprocket. Be sure the teeth are pointing forward on the topside of the bar. Check that the drive links go into the bar groove properly. Replace outer guide plate. Be sure chain tightener pin lines up with the hole in the bar. Replace chain brake, making sure it is on "off" position, so that you do not damage the break band.

Screw the chain tightener screw in a clockwise direction until the chain is correctly tensioned. The chain is correctly tensioned when it is in contact with lower guide bar rails.

Hold the end of the bar up while you tighten the bar nuts.



After the bar has been tightened, move the chain back and forth on the bar to make sure that it moves freely.

Push the hand guard to put the chain brake on. You should not be able to turn the chain with the chain brake on.

(If the chain can be turned, refer to the owner's manual and find how to adjust the brake).



FUELING THE SAW

Check for the proper location for the mixing and filling of the fuel for the chain saw.

Chain saws have a two-stroke engine. This means you must mix oil with the gas.

Use unleaded gas, and a mixing oil for two-stroke air-cooled engines.

Check your owner's manual for the mix ratio for your saw.



Note: Gas is flammable. Keep away from open flame and do not smoke while mixing the gas or when fueling the saw.



The oil must be completely mixed with the gas.

Put a small amount of gas into an approved container. Add the amount of oil needed.

Shake well to be sure oil is completely mixed with the gas.

Put the rest of the gas in the can and shake again.

At any time before you attempt to start your saw make sure both fuel and chain oil tanks have been filled.

After refueling, make sure the gas cap is secure. Repair or replace caps that have damaged vents, which allow gas to leak out.

Note: Never refuel close to an open flame.

Never smoke while refueling.

Never refuel with engine running.

Never refuel when engine/muffler is hot.



Move the saw away from the fueling area before trying to start it. If you have spilled gas on the saw, allow it to dry before trying to start it again.

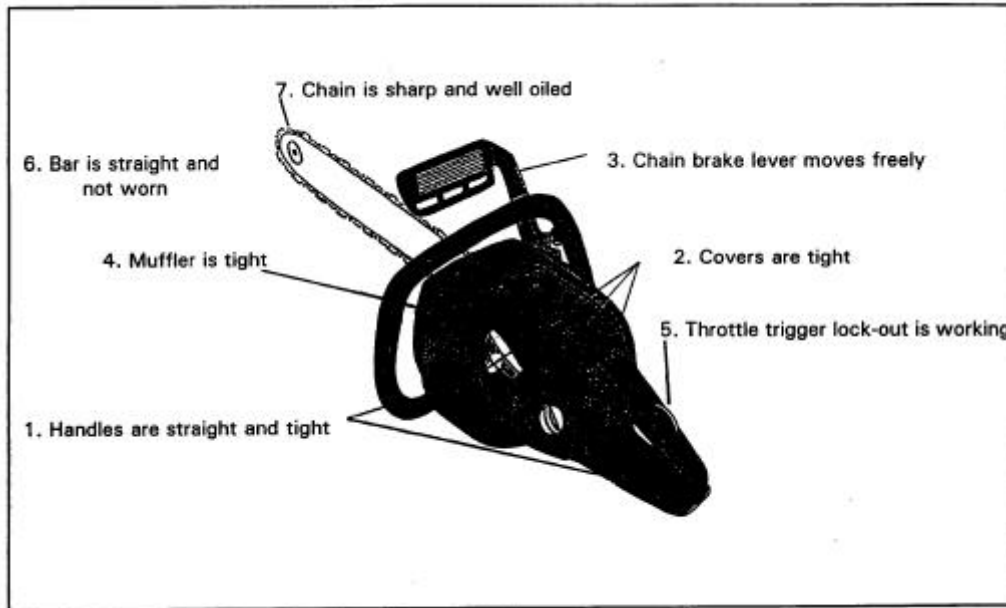
STORAGE AND USE OF CHAINSAW FUELS

- Store flammable materials well away from work site
- Fuel your chain saw in a well-ventilated area, outdoors only
- Always shut off the engine and allow it to cool before refueling
- Never smoke while refueling
- Never refuel close to an open flame
- Relieve fuel tank pressure by loosening fuel cap slowly
- Select bare ground for refueling and move at least 10 feet from fueling spot before starting the engine
- Wipe off any spilled fuel before starting your saw and check for leakage



WARNING! Gasoline is an extremely flammable fuel. Use extreme caution when handling gasoline or fuel mix.

GIVE THE SAW THE ONCE OVER BEFORE USING



Note: The chain saw has improved over the last few years and has become very powerful. It is a very useful tool but if not used properly by a competent operator, serious injuries could occur.

STARTING THE SAW

When starting the saw cold, put on the throttle latch.

(Note: This holds the saw at half throttle so the chain will turn as soon as the saw starts. Be sure there is nothing that the chain can touch.)

Pull the choke all the way out.

Setting the saw on the ground:

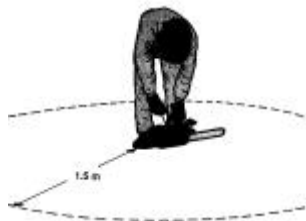
- Put the saw on the ground, making sure that there is nothing close to the bar that may catch in the chain, make sure this area is clean.
- Place your right foot in the rear handle.
- Grip the front handle firmly with your left hand.
- Pull starter handle slowly to engage starter; then apply a short, fast pull to start.
- Keep hold of the starter handle as the rope rewinds (saves damage to starter).
- When the saw fires, push the choke in, the saw will usually start on the next pull.
- Rev up the engine briefly to release the throttle catch and let the saw idle.

Note: As soon as the saw starts, the chain will race around the bar. This is a dangerous time; be sure there is nothing the chain can catch and that no one is standing within 1 ½ meters (5 feet) of you.

When starting a warm saw neither the choke nor the throttle latch has to be used.



RIGHT



WRONG



WORKING THE SAW

All saws are designed for use by right handed people; if you are left handed take extra care.

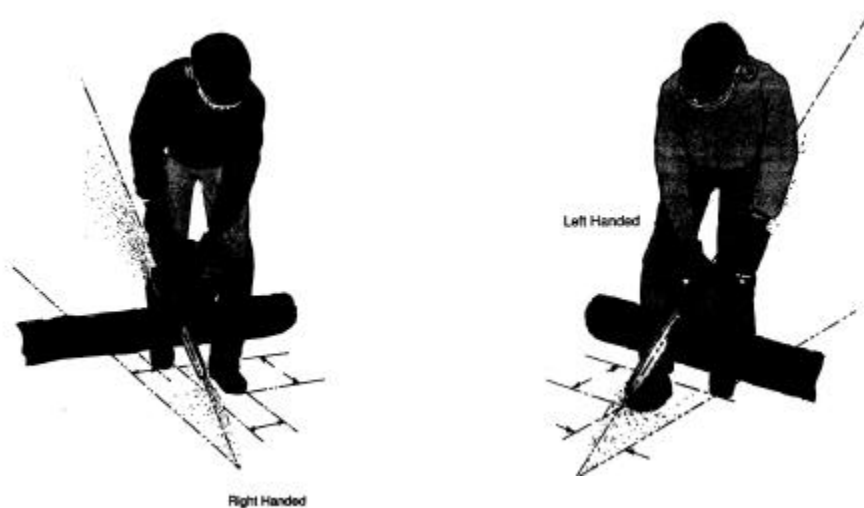
Always hold the saw with both hands.

Your left thumb (right for lefties) must always be around the back of the front handle.

Stand with your legs comfortably apart with one foot ahead of the other to maintain good balance.

Hold the saw close to your body; this gives you better control.

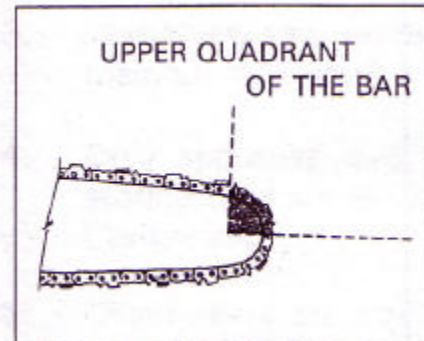
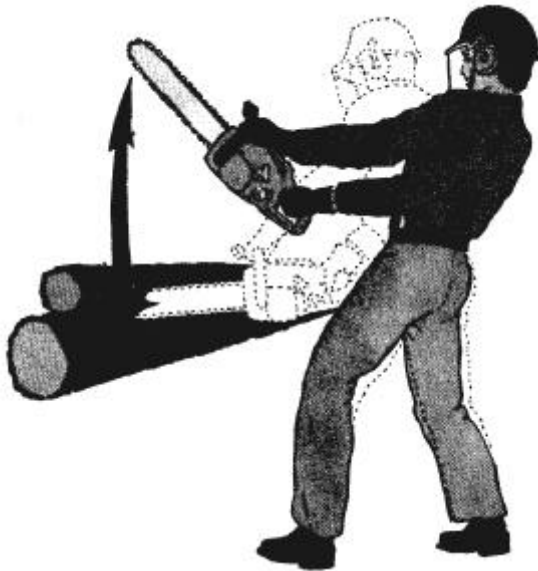
Note: Do not stand in line with the chain.
Never cut over shoulder height.
Avoid awkward or uncomfortable positions.



For the operator's safety, the saw is designed so that the saw body is between the bar and the operator. When a chain saw is used "left handed", the bar is beside the operator's body. Left handed operators must keep in mind that they are in a more hazardous position than right handed workers. Care must be used to keep your body away from the plane of the bar and chain.

KICKBACK

Kickback occurs when the chain takes too big a bite at the nose of the chain saw or the upper quadrant of the bar nose strikes a solid object other than the intentional cut causing the saw to jump upward with tremendous force.



HOW TO AVOID KICKBACK

- Know where the end of the bar is at all times.
- Do not lower the depth gauges of the chain below recommended limits.
- Keep your chain sharp.
- Cut with engine at full throttle
- Use a chain brake. Chain brakes will not prevent kickback, but they will prevent serious injuries.



CARRYING THE SAW

Carry your saw with the bar to the rear, the hot muffler away from your body.

Your saw should always be shut off when carrying it more than a short distance.



REMEMBER:

The chain saw is a tool that will do a lot of work. You must remember that it will cut you as well as wood. Take time to think. Practice handling the saw until you are comfortable with it before you attempt any work.

CHAINSAW CHECKLIST

1. When operating a chain saw, a worker shall wear a safety hat and footwear, safety mitts or gloves, hearing protection, safety eyewear and safety pants.
2. Only saws that meet CSA Standard Z 62.1 – M85 are to be used.
3. The chain saw motor must be stopped prior to refueling or doing maintenance work on the saw.
4. Only approved fuel containers are to be used for distribution or storing of chain saw fuel. (CSA Standard B376-M1980 - Portable Containers)
5. Chain saws are not to be started within three meters of the fuel containers.
6. Fire extinguishers are to be provided to chain saw operators.
7. Chain saws are to be shut off and maintained if the chain is moving during the idling stages.
8. Chain saw motors are to be turned off if the saw is to be carried a distance longer than between the trees to be felled.
9. When operating a saw, the operator is to hold it firmly in both hands and not rest it against his body.
10. Safety gloves and mitts shall be worn when sharpening chain saw blades.
11. Never leave a running chain saw unattended.
12. First aid kits are to be readily available to operators.

For additional information relating to Forestry, Logging and Log Hauling, refer to Workplace Safety and Health Regulation 102/88.

CHAIN SAW SAFETY REVIEW QUESTIONS

ANSWER TRUE OR FALSE TO EACH OF THE QUESTIONS

- T / F 1) Your chances of injury become much less when you are alert, well rested and healthy.
- T / F 2) Even the most careful worker needs the extra protection of proper safety clothing.
- T / F 3) Always hold a chain saw with both hands.
- T / F 4) A well maintained chain saw can prevent injuries.
- T / F 5) Chain saw safety devices are a necessity not an option.
- T / F 6) A chain saw should always be started on the ground pointing away from your body.